

What is claimed is:

1. An apparatus utilizing sound-image localization for distributing audio secret information, comprising:

a first signal processor for distributing at least one target sound as secret information into a plurality of stereo media, wherein the distribution is performed such that the sound-image of the target is shifted from the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner;

a second signal processor for distributing a plurality of decoy sounds as disturbing information into the said plurality of stereo media, wherein the distribution is performed such that the sound-image of the decoy sounds is localized to the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner.

2. The apparatus according to claim 1, wherein said first and second signal processors control whether or not that the sound-image is localized to the center position of the head by adjusting volumes of right and left channels of the stereo media, respectively.

3. The apparatus according to claim 1 or 2, wherein the sum, n , of the number of said target sound and the number of said decoy sounds is equal to or less than 6.

4. The apparatus according to claim 1 or 2, wherein the peak amplitude, p , of one side of one sound signal of said stereo media is equal to or less than about 10.

5. The apparatus according to claim 1 or 2, further comprising calculating means for calculating the number of said stereo media from a desired safety factor and/or an anticipated colluder factor.

6. A method utilizing sound-image localization for distributing audio secret information, comprising the steps of:

a first step for distributing at least one target sound as secret information into a plurality of stereo media, wherein the distribution is performed such that the sound-image of the target is shifted from the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner;

a second step for distributing a plurality of decoy sounds as disturbing information into the said plurality of stereo media, wherein the distribution is performed such that the sound-image of the decoy sounds is localized to the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner.

7. The method according to claim 6, wherein said first and second steps control whether or not that the sound-image is localized to the center position of the head by adjusting volumes of right and left channels of the stereo media, respectively.

8. The method according to claim 6 or 7, wherein the sum, n , of the number of said target sound and the number of said decoy sounds is equal to or less than 6.

9. The method according to claim 6 or 7, wherein the peak amplitude, p , of one side of one sound signal of said stereo media is equal to or less than about 10.

10. The method according to claim 6 or 7, further comprising calculating the number of said stereo media from a desired safety factor and/or an anticipated colluder factor using computing means.

11. A program for executing a method utilizing sound-image localization for distributing audio secret information, said program comprising the steps of:

a first step for distributing at least one target sound as secret information into a plurality of stereo media, wherein the distribution is performed such that the sound-image of the target is shifted from the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner;

a second step for distributing a plurality of decoy sounds as disturbing information into the said plurality of stereo media, wherein the distribution is performed such that the sound-image of the decoy sounds is localized to the center position of the head when said plurality of stereo media are simultaneously played to be heard in a binaural manner.

12. The program according to claim 11, wherein said first and second steps control whether or not that the sound-image is localized to the center

position of the head by adjusting volumes of right and left channels of the stereo media, respectively.

13. The program according to claim 11 or 12, wherein the sum, n , of the number of said target sound and the number of said decoy sounds is equal to or less than 6.

14. The program according to claim 11 or 12, wherein the peak amplitude, p , of one side of one sound signal of said stereo media is equal to or less than about 10.

15. The program according to claim 11 or 12, further comprising calculating the number of said stereo media from a desired safety factor and/or an anticipated colluder factor using computing means.